



# Joint Synthetic BattleSpace



*Integrity - Service - Excellence*





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# Ensuring Readiness for Tomorrow's Warfighters



## YESTERDAY:

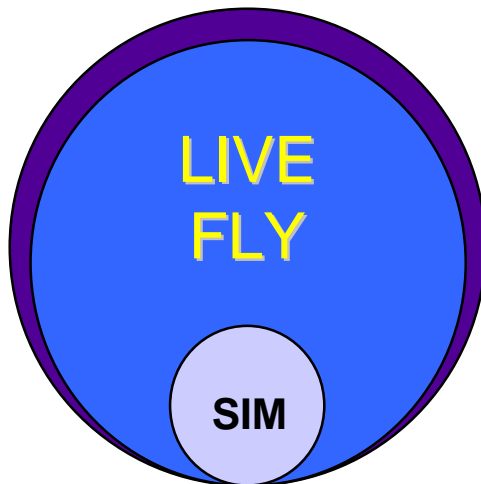
Mission proficiency could be achieved with flying hours alone

## TOMORROW:

Mission proficiency requires complex simulation experience to complement flying hours

## EXPANDING OPERATIONS

- New Missions
- New Systems
- New Capabilities



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# Joint Synthetic BattleSpace (JSB) Concept



An on-demand, integrated environmental and operational battlespace, able to selectively accommodate different functional applications at varying levels of detail using common components

*-- JSB Visioning Workshop @ JFCOM  
21-22 February 2001*



Responsibility for JSB within the AF rests in AF/XOC

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# Joint Synthetic BattleSpace Air Force (JSB-AF)



Linking the Common Synthetic Environment's Development to the AF CONOPS

## AF CONOPS

Acquisition



SBA

Training



DMT/  
AEF

T&E



JDEP

Analysis



QDR

Ops



DMO/  
CAOC

Wargames



GE

Experiments



JEFX

Sample Domain  
Initiatives



Common Synthetic Environment  
(JSB-AF)

MODELING & SIMULATION GENERAL OFFICER STEERING GROUP



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# JSB-AF Year 2000 Events

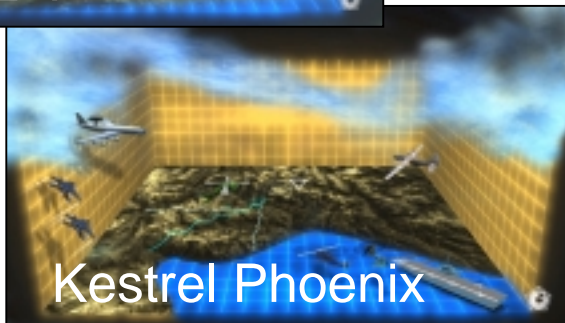


## 2000 Events



VSWE VII

*Col Phil Faye*



Kestrel Phoenix

*Lt Col. Gary Holland*



Desert Pivot

*Lt Col "Boomer" Henry*



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# JSB-AF Facilitation Across Domains



*Lt Gen Kenne*



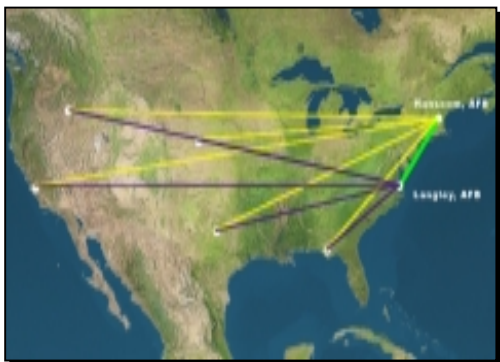
ESC/CC



*Maj Gen Perryman*



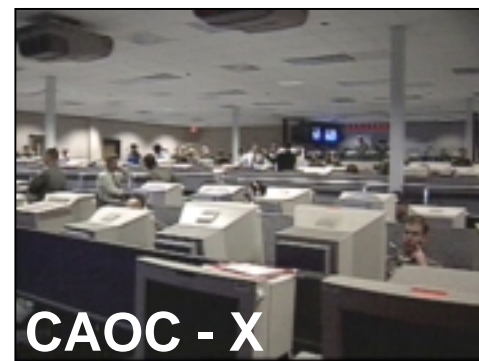
AC2ISRC/CC



Simulation Based Acquisition (SBA)



Distributed Mission Operations



CAOC - X



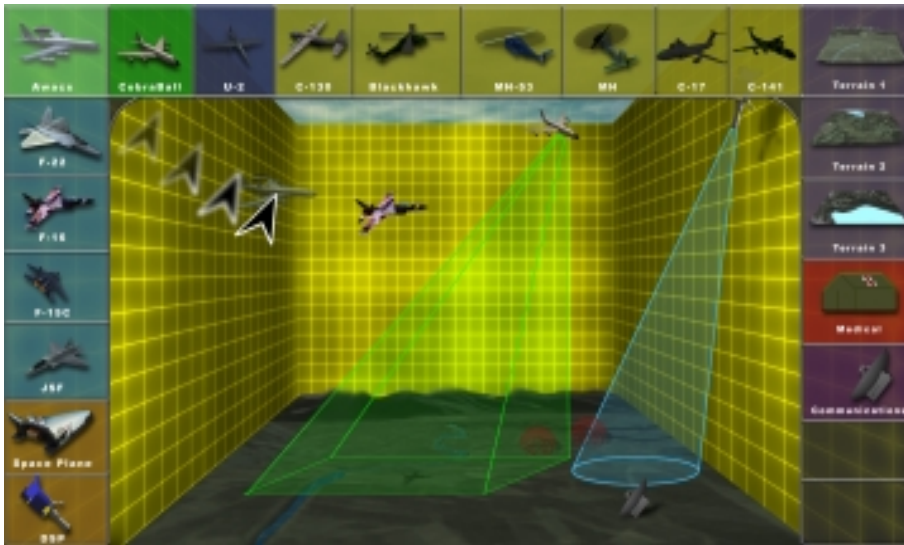
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# JSB-AF's Impact

## Constraints to live training

- Few Joint training opportunities
- Restricted Weapons/EW envelopes
- Environmental concerns
- Complex rules of engagement
- High PERSTEMPO, OPSTEMPO
- Dwindling exercise \$\$
- Flying time issues
- Security issues
- Safety
- Airspace Availability



## *What we really need*

- High fidelity virtual battlespace
- Full sensor & C2 representations
- Composite force operations
- Mission rehearsal
- Sensor-to-shooter interactions
- Joint Interoperability

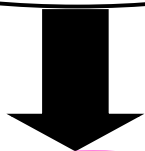
# Distributed Mission Training



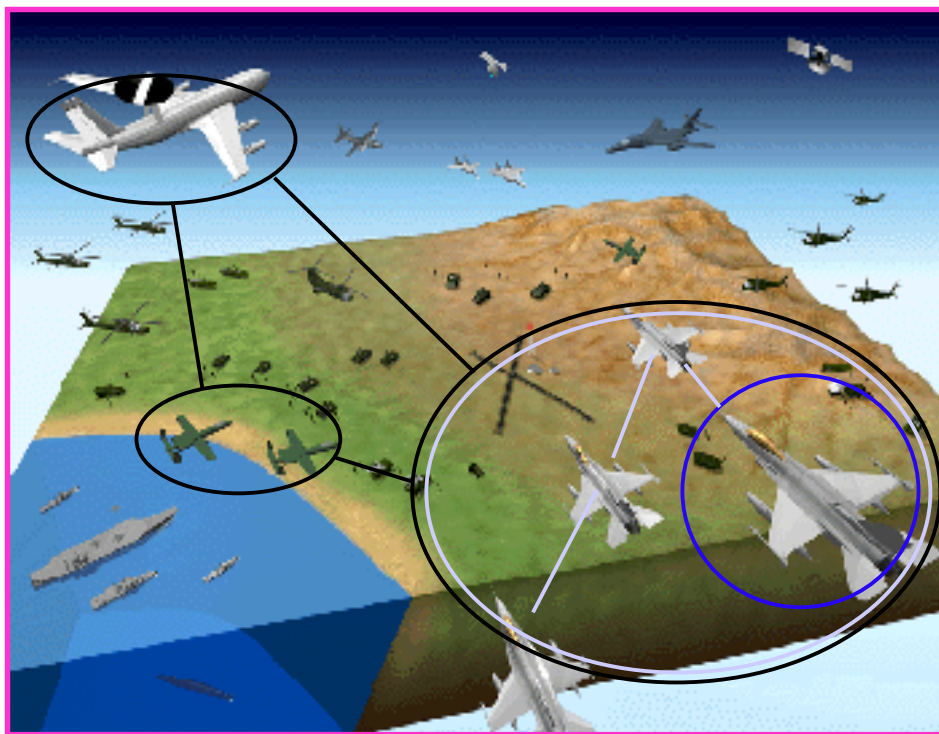
## Training Levels

Individual  
Team

Inter-Team



Full Mission  
Rehearsal



## Player Types

- Live
- Virtual
  - Man in the Loop
- Constructive
  - Computer generated

## The Next Generation in AF Readiness Training



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# AF DMT Roadmap

**Goal - Robust Mission Environment by FY08**  
**Mission Training Center (MTC) at each operational unit**

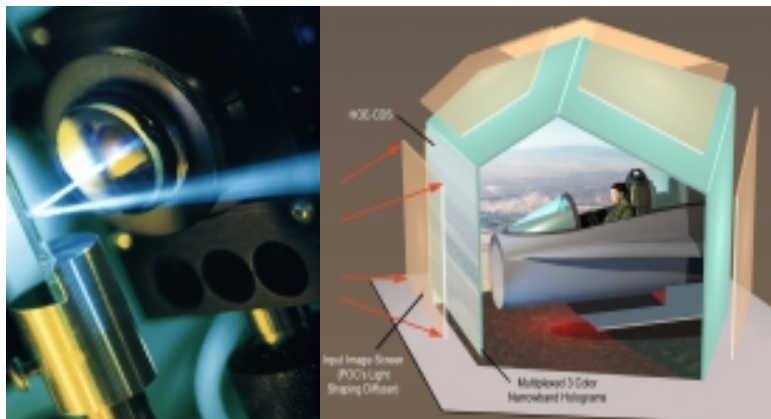


**Incremental Expansion of DMT Network and Capabilities**  
**Individual Training** —————> **Mission Rehearsal**

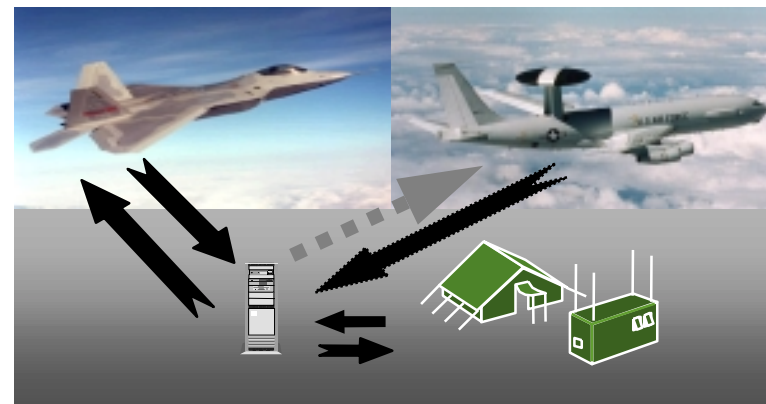


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# Technology Initiatives



**20/20 Immersive Display System**



**Multilevel Security Manager**



**Next Generation Threat System**



**Comprehensive NVD operations**

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# Events in CY01



## ■ DMT Events

- **Combat Air Forces Operations and Integration IOC - Spring 01**
  - On demand F-15 to AWACS connectivity will be established
- **Efforts underway to establish multi-domain interoperability**

## ■ JSB Events

- **JSB-AF (Acquisition) Experiment (ESC/CX) - Fall 01**
  - Objective is to utilize heavily instrumented test environment of JCIET to validate synthetic environment representations
- **DESERT PIVOT (TACCSF)**
  - Theater Aerospace Command Control Simulation Facility (TACCSF) - sponsored interoperability & training
  - Repeatable quarterly training event



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# Want to Play?

- **IITSEC 01 JSB (JFCOM and Services)**

- JFCOM and Service supported demonstration
- Industry interest welcomed

**(<http://www.jwfc.jfcom.mil/dodnato/conferences/iitsec2001/>)**









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# **Current MAJCOM DMT Efforts**



- **DMT-A (CAF)**
  - F-15, F-16, AWACS Mission Training Centers
  - Lateral Integration of ISR Assets
- **DMT- SO (AFSOC)**
  - Full Mission Rehearsal Capabilities
  - AC-130U, MC-130E/H/P, MH-60K, MH-53J/K/M, MH-47
- **DMT-S (AFSPC)**
  - Space AOC, Space Warfare Center, Missile Warning, Space Surveillance, Satellite Control, and Space C2 Units
- **DMT-M (AMC)**
  - DMT Ready C-5, C-17, KC-10 Flight Sims & Boom Operator
- **DMT-C2 & DMT-T (AC2ISRC/AETC)**
  - Initial Phase of Defining Requirements